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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/467,669 12/19/99 RASMUSSEN

D 3115.1000

EXAMINER

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ART UNIT	PAPER NUMBER
2184	#15

DATE MAILED: 09/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

## Office Action Summary

Application No.  
09/467,669

Applicant(s)

Rasmussen et al.

Examiner

Scott T. Baderman

Art Unit

2184

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1)  Responsive to communication(s) filed on Aug 10, 2001

2a)  This action is FINAL.      2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

4)  Claim(s) 1-107 is/are pending in the application.  
      100-103 + 106  
4a) Of the above, claim(s) 46-49, 54, 56, 58-68, 70, 72, 73, 75, 76, 78-92, 99 is/are withdrawn from consideration.

5)  Claim(s) 50 is/are allowed.

6)  Claim(s) 1-45, 51-53, 55, 57, 69, 71, 74, 77, 93-98, 104, and 105 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claims 107 are subject to restriction and/or election requirement.

### Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved.

12)  The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) All b) Some\* c) None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

15)  Notice of References Cited (PTO-892)      18)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16)  Notice of Draftsperson's Patent Drawing Review (PTO-948)      19)  Notice of Informal Patent Application (PTO-152)

17)  Information Disclosure Statement(s) (PTO-1449) Paper No(s). 10      20)  Other: \_\_\_\_\_

Art Unit: 2184

## **DETAILED ACTION**

### *Election/Restriction*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-45, 48-53, 55, 57, 63-64, 66-69, 71, 74, 77, 93-98, 100-101 and 104-105, drawn to a control system comprising, specifically, multiple processors, a voting system which compares the processors with one another and a selection system which selects one of the processors in response to the comparison, classified in class 714, subclass 11.
  - II. Claim 107, drawn to a channel transmission validity testing system, classified in class 714, subclass 712.
2. The inventions are distinct, each from the other because of the following reasons:  
Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as voting and selecting from a plurality of processors. Invention II has separate utility such as testing the validity of channel transmission. See MPEP § 806.05(d).

Art Unit: 2184

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Rick Toering (Reg. # 43,195) on September 24, 2001 a provisional election was made without traverse to prosecute the invention of I, claims 1-45, 48-53, 55, 57, 63-64, 66-69, 71, 74, 77, 93-98, 100-101 and 104-105. Affirmation of this election must be made by applicant in replying to this Office action. Claim 107 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

Art Unit: 2184

*Specification*

6. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.
7. The disclosure is objected to because of the following informalities: In the “Brief Description of the Drawings” on page 8, line 14 a description of Figures 18A-18E needs to be inserted. Appropriate correction is required.

  

*Claim Objections*

8. Claim 17 is objected to because of the following informalities: In line 5, “said at least one communication module” lacks antecedent basis. Appropriate correction is required.
9. Claim 22 is objected to because of the following informalities: In line 4, “said at least one input/output module” lacks antecedent basis. In line 5, “said at least one communication module” lacks antecedent basis. Appropriate correction is required.
10. Claim 32 is objected to because of the following informalities: In line 1, “said fastener” lacks antecedent basis. Appropriate correction is required.

Art Unit: 2184

11. Claim 33 is objected to because of the following informalities: In line 2, “said fastener” lacks antecedent basis. Appropriate correction is required.

12. Claim 35 is objected to because of the following informalities: In lines 5-6, “said at least one communication module” lacks antecedent basis. Appropriate correction is required.

13. Claim 39 is objected to because of the following informalities: In lines 5-6, “said at least one communication module” lacks antecedent basis. Appropriate correction is required.

14. Claim 43 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

15. Claims 48 and 49 are objected to because of the following informalities: Both of these claims depend on canceled claim 46. Based on this, these claims are not being examined based on the merits. Appropriate correction is required.

16. Claim 50 is objected to because of the following informalities: In line 22, “form” should be “from”. Appropriate correction is required.

Art Unit: 2184

17. Claims 63-64 and 66-68 are objected to because of the following informalities: All of these claims depend on canceled claim 62. Based on this, these claims are not being examined based on the merits. Appropriate correction is required.

18. Claims 100 and 101 are objected to because of the following informalities: Both of these claims depend on canceled claim 99. Based on this, these claims are not being examined based on the merits. Appropriate correction is required.

***Allowable Subject Matter***

19. Claim 50 is allowed.

20. The following is an examiner's statement of reasons for allowance:

With respect to claim 50, the Examiner asserts that the novelty of the claim, when read as a whole, are the limitations described in H) - L).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2184

***Double Patenting***

21. Applicant is advised that should claims 35-38 and 44 be found allowable, claims 39-42 and 45, respectively, will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 102***

22. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

23. Claims 1-45, 51-53, 55, 57, 69, 71, 74, 77, 93-98, 104 and 105 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. (4,967,347).

As in claims 1, 11, 16, 21, 26-29, 34, 43-45, 53, 55, 57, 69, 71, 74, 77, 93-98, 104 and 105, Smith discloses a system for executing software that comprises a) a plurality of redundant processor modules (Figure 1), b) at least one input-output module for receiving and sending

Art Unit: 2184

information to elements communicating with each processor module (elements 14 and 16 of Figure 6), c) at least one communication module communicating external signals to the plurality of processor modules (element 130 of Figure 6), d) a time synchronizing system for synchronizing the time clocks of the processor modules (element 114 of Figure 6), e) a voting system which exchanges information between selected processor modules and compares the information in each processor module with the information in other selected processor modules (Figure 1, element 30 of Figure 6), f) a selection system which determines which of the plurality of processor modules is a selected processor module which is used to compare information in each processor module (Figure 1, column 9: lines 33-40), g) a plurality of separate housings for enclosing electronic circuit boards representing the modules, which have a common physical characteristic for receiving the electronic circuit boards and providing housing electrical connectors (Figure 8, column 11: line 67 - column 12: line 34), h) at least one base plate circuit board for mounting each module which provides base plate electrical connectors for receiving the housing electrical connectors (Figure 8, column 11: line 67 - column 12: line 34) and I) a common rail system for mounting of the at least one base plate circuit board and providing electrical connections to each of the housings (Figure 8, column 11: line 67 - column 12: line 34) (See entire patent).

As in claims 2, 12, 17, 22, 30, 35 and 39, Smith discloses a system wherein selected circuit boards receive the housing for the processor modules, other selected circuit boards receive the

Art Unit: 2184

housing for the input/output module, and other selected circuit boards receive the housing for the communication module (Figures 6 and 8, column 11: line 67 - column 12: line 34).

As in claims 3, 13, 18, 23, 31, 36 and 40, Smith discloses a system wherein each of the plurality of housings includes a mounting fastener attached to the housing which is used to mount the housing to the baseplate circuit board and remove the housing from the base plate circuit board (Figure 8, column 12: lines 16-34).

As in claims 4, 14, 19, 24, 32, 37 and 41, Smith discloses a system wherein the fastener is an elongated screw which is rotatable attached to the housing along its length such that when the screw is rotated in a first direction the housing electrical connectors are pulled into engagement with the base plate electrical connectors and when turned in the opposite direction pulls the housing electrical connectors out of engagement with the base plate electrical connectors (Figure 8, column 12: lines 16-34).

As in claims 5, 15, 20, 25, 33, 38 and 42, Smith discloses a system that comprises a sensor for sensing a change in position of the fastener and a module remove detector system for indicating that the fastener position has changed (column 12: lines 16-34).

Art Unit: 2184

As in claim 6, Smith discloses that which is described in claim 1 above, and further discloses a channel transmission validity testing system (i.e., the communication module contains its own voter circuit) (column 8: line 50 - column 9: line 6).

As in claim 7, the Applicant is referred to claim 2 above.

As in claim 8, the Applicant is referred to claim 3 above.

As in claim 9, the Applicant is referred to claim 4 above.

As in claim 10, the Applicant is referred to claim 5 above.

As in claim 51, Smith discloses that which is described in claim 1 above, and further discloses restoring valid information for access by the main processor modules (column 11: line 67 - column 12: line 15).

As in claim 52, Smith discloses that information to be evaluated can be selected from program code, fault detection information, sensor information command information output information input information and any combination therein (column 5: lines 52-54, column 7: line 1 - column 8: line 9).

Art Unit: 2184

***Conclusion***

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See Form PTO-892.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott T. Baderman whose telephone number is (703) 305-4644.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 308-9051, (for formal communications intended for entry)

**Or:**

(703) 305-3718 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Application/Control Number: 09/467,669

Page 12

Art Unit: 2184



Scott T. Baderman  
Patent Examiner  
Art Unit 2184

STB

September 25, 2001